Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Lab Portfolio Web Page Project**

Ms. Ottolini and Mr. Burda, AP Biology, 2013-2014

**Project Description:** For this project, you will be creating an online laboratory portfolio to demonstrate your knowledge of the experiments we complete after the AP Test.

**Grade Type:** Final Exam (20% of your second semester grade)

**Due Date:** The due date will be different for juniors and seniors, as final exams are scheduled for different dates. However, all experiments will be completed in plenty of time for both the junior and senior due dates. Students MUST attend class on the due date. You will be required to give a brief presentation of your web page in class, though this presentation will not be part of your grade.

1. Senior Due Date: Friday, June 6th (6th Period) / Monday, June 9th (5th Period) / Tuesday, June 10th (2nd Period)
2. Underclassmen Due Date: Monday, June 16th (2nd and 6th Periods) / Tuesday, June 17th (5th Period)

**Exempt Students:** Junior and senior students who have an “A” average (90% or above) for the year are exempt from the final exam. These students do not need to attend the final exam date.

**Web Page Details:** You can access your web page by typing in the following URL address: <http://students.weebly.com> . Your teacher will provide you with a username and password in class to sign in to your personal page. Follow the simple set-up of the Weebly website creation tools to personalize your web page.

**Exam Submission:** As the creator of the class Weebly account, your teacher has access to your web pages. Therefore, you will not have to “submit” any work on paper. Instead, I will login to your page and grade the material that is present on your page on the due date.

**Experiment Calendar:**

|  |  |  |
| --- | --- | --- |
| **Date** | **Period / Time** | **Class Plan** |
| Monday, May 19th | 5th Period- 7:30-9:15 and 10:40-12:50 with 2nd lunch | 7:30-9:15  Project Rubric Distributed  Web Page Usernames and Passwords Distributed  Enzyme Lab  10:40-12:50  Revise methods and complete Enzyme Lab again OR  Complete the first lab write-up |
| Tuesday, May 20th | 6th Period- 7:30-9:15 and 10:40-12:50 with 2nd lunch  2nd Period- 12:56-2:10 | 6th Period  7:30-9:15  Project Rubric Distributed  Web page Usernames and Passwords Distributed  Enzyme Lab  10:40-12:50  Revise methods and complete Enzyme Lab again OR  Complete the first lab write-up  2nd Period  Project Rubric Distributed  Web page Usernames and Passwords Distributed |
| Wednesday, May 21st | 5th Period- 9:21-10:34 | Complete the first lab write-up and peer evaluate |
| Thursday, May 22nd | 2nd Period- 7:30-9:15 and 10:40-12:50 with 2nd lunch  6th Period- 9:21-10:34 | 2nd Period  7:30-9:15  Enzyme Lab  10:40-12:50  Revise methods and complete Enzyme Lab again OR  Complete the first lab write-up  6th Period  Complete the first lab write-up and peer evaluate |
| Tuesday, May 27th | 2nd Period and 6th Period (normal time) | Diffusion and Osmosis Lab |
| Wednesday, May 28th | 5th Period (normal time) | Diffusion and Osmosis Lab |
| Thursday, May 29th | 2nd Period and 6th Period | Photosynthesis Lab |
| Friday, May 30th | 5th Period | Photosynthesis Lab |
| Monday, June 2nd | 2nd Period and 6th Period | Cellular Respiration Lab |
| Tuesday, June 3rd | 5th Period | Cellular Respiration Lab |
| Wednesday, June 4th | 2nd and 6th Period | Gel Electrophoresis Lab (Note: this one is hard to use for your web page because it does not have a distinct independent and dependent variable) |
| Thursday, June 5th | 5th Period | Gel Electrophoresis Lab (Note: this one is hard to use for your web page because it does not have a distinct independent and dependent variable) |

**Requirements:**

1. You are required to complete a lab summary for three of the five experiments we complete in class. You can choose the experiments for which you complete a summary. When designing your web page, you might choose to make one main page connecting all three labs to content from the units we studied in class and then three tabs where you include a summary of the purpose, hypothesis, methods, results, and discussion / conclusion for each experiment. Ms. Ottolini will show you a sample web page in class.
2. For each experiment you must include the following information on your web page:

* Connection to Class Content: In this section, you must thoroughly and accurately connect the purpose, hypothesis, methods, or results of the experiment to one or more of the units we studied in class. You must connect the experiment to at least three vocabulary terms or concepts from that unit.
* Purpose: In this section, you must clearly state the purpose of the experiment in the following format… “The purpose of this experiment was to determine the effect of \_\_\_\_\_\_\_ (the independent variable) on \_\_\_\_\_\_\_\_ (the dependent variable).”
* Hypothesis: In this section, you must clearly state the hypothesis of the experiment in the following format… “If the \_\_\_\_\_\_ (the independent variable) is changed in \_\_\_\_\_\_ way, then the \_\_\_\_\_\_\_ (the dependent variable) will change in \_\_\_\_\_\_\_ way.”
* Methods Summary Chart: In this section, you will create and complete an experimental design chart that includes all the elements from the chart given below. When completing the chart, your answers in the right-hand column should be in complete sentences.

|  |  |
| --- | --- |
| Independent Variable |  |
| Levels of the Independent Variable (if applicable) |  |
| Dependent Variable |  |
| Method for Measuring Changes in the Dependent Variable |  |
| Control Group (if applicable) |  |
| Constants (factors that stay the same between your control group and your experimental groups) |  |
| Number of Trials |  |

* Results: In the section you will include a chart AND graph that organizes / depicts the data you collected in the experiment.
* Discussion / Conclusion: In this section, you must include the following requirements…

1. A summary of the trends in the data
2. An explanation of whether the data supports or refutes the hypothesis
3. A discussion of the potential errors in the methods that could cause inaccuracies in the data AND suggestions for changes in the methods that could eliminate these errors

**Rubric:** You will be evaluated using the following criteria.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Requirement** | **Meets**  **Expectations** | **Approaches Expectations** | **Does Not Meet Expectations** | **Points**  **Lab 1** | **Points Lab 2** | **Points**  **Lab 3** | **Total Points** |
| Connection to a Unit of Study | You have thoroughly and accurately connected the purpose / methods of the experiment to one of our units, citing at least three vocabulary terms or concepts from that unit.  (5 points) | Your connections to the unit of study are either inaccurate, lack detail, OR you have included less than three.  (3-4 points) | Your connections to the unit of study are inaccurate, lack detail, AND you have included less than three.  (1-2 points) | /5 | /5 | /5 | /15 |
| Purpose | The purpose of the experiment is clearly stated/formatted. Both your independent and dependent variable are correct.  (3 points) | The purpose of the experiment is either unclearly stated/formatted OR your independent and/or dependent variable are incorrect.  (2 points) | The purpose of the experiment is unclearly stated / formatted AND your independent variable and/or dependent variable are incorrect.  (1 point) | /3 | /3 | /3 | /9 |
| Hypothesis | Your hypothesis is clearly stated/ formatted. There is a thorough and accurate explanation for your prediction that connects to the content learned in the unit.  (3 points) | Your hypothesis is either unclearly stated / formatted OR your explanation lacks detail / accuracy.  (2 points) | Your hypothesis is unclearly stated / formatted AND your explanation lacks detail / accuracy.  (1 point) | /3 | /3 | /3 | /9 |
| Methods Summary Chart | All elements from your summary chart are recorded thoroughly and accurately.  (5 points) | Most elements from your summary chart are recorded thoroughly and accurately, but some are incorrect or missing detail.  (3-4 points) | Most elements from your summary chart are incorrect or missing detail.  (1-2 points) | /5 | /5 | /5 | /15 |
| Results | Your chart and/or graph has an appropriate title, correct labels (with units), and logical organization of data points.  (3 points) | Your chart and/or graph is missing one of the following elements: an appropriate title, correct labels (with units), and logical organization of data points.  (2 points) | Your chart and/or graph is missing two or three of the following elements: an appropriate title, correct labels (with units) and logical organization of data points.  (1 point) | /3 | /3 | /3 | /9 |
| Discussion / Conclusion | Your discussion / conclusion section thoroughly and accurately meets each of the criteria listed in the “requirements” section of this document.  (5 points) | Your discussion / conclusion section is missing some of the criteria or some criteria lack detail / accuracy.  (3-4 points) | Your discussion / conclusion section is missing most of the criteria or most criteria lack detail / accuracy.  (1-2 points) | /5 | /5 | /5 | /15 |
| Professional Appearance of Web Site | Website is well organized / formatted to meet the other requirements and is professional in appearance  (5 points) | Website is slightly disorganized / formatted but still maintains a professional appearance  (3-4 points) | Website is poorly organized and contains spelling / grammar errors ; does not maintain a professional appearance  (1-2 points) | /5 | | | |

**Total: \_\_\_\_\_\_\_ / 77**